

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No. : 09/966,414                      Applicant : GUTTA et al.  
Filed : 28 Sep 2001                      TC/A.U. : 2623  
Examiner : LONSBERRY, Hunter B.      Confirmation : 4362  
Atty. Docket : US-010451

Title: **INDIVIDUAL RECOMMENDER DATABASE USING PROFILES OF OTHERS**

Mail Stop: **APPEAL BRIEF - PATENTS**  
Commissioner for Patents  
Alexandria, VA 22313-1450

**REPLY BRIEF UNDER 37 CFR 41.41**

Sir:

This is a Reply Brief in response to the Examiner's answer dated 19 September 2006 in the subject application.

**RESTATEMENT OF GROUNDS OF REJECTION**

Claims 1-6, 8-9 and 11 are rejected under 35 U.S.C. 102(b) over Payton (USP 5,790,935)

**REMARKS REGARDING EXAMINER' ANSWER**

Claim 1, upon which claims 2-4 depend, includes modifying a first user profile based on data in a second user profile, with limitations related to this modification.

The applicants maintain that Payton fails to teach modifying a first user's profile based on data in a second user's profile.

Payton teaches determining recommendations based on first and second user profiles. The Examiner asserts that these recommendations are a part of a user's profile: "The examiner notes that the profile is the recommendation list in conjunction

with the user profile" (Examiner's Answer, page 9, lines 14-16). The applicants respectfully disagree with this convoluted assertion.

Payton uses the user profiles to generate recommendations:

"A subscriber data base 38 stores a subscriber profile 40 for each of the subscribers. The subscriber profile 40 preferably includes a rating vector (shown in FIG. 6) in which the subscriber has rated each of the items he or she has previously requested. The subscriber profile 40 may also include demographic information about the subscriber such as the subscriber's general likes and dislikes. A collaborative filtering system 42 synthesizes the subscriber profiles 40, predicts which of the available items 36 each subscriber may be interested in or may request, and produces a list 44 of those recommended items for each subscriber." (Payton, column 5, lines 6-16.)

That is, consistent with recommendation systems in general, Payton's user profiles provide the input to the recommendation engine, and the recommendation engine provides a list of recommendations as an output. The Examiner's definition arbitrarily combines the input profile and the output recommendations as a single entity, and conveniently defines this entity as a 'profile' to support the rejections.

Payton does not teach adding the recommendations to the user profile, and consistently distinguishes the two. The Examiner asserts that Payton teaches that the predictions are added to the user's profile (Examiner's Answer, page 10, line 2), but does not provide a cite to Payton to support this assertion. Further, in another section of the Examiner's Answer, the Examiner notes that Payton's user's profile, as illustrated in FIG. 6, includes ratings for programs, and then acknowledges that the generation of recommendations has no effect on these ratings. The Examiner assesses both the entries in the profile that contain a user's rating, and those that do not currently contain a rating:

"The user's existing ratings of programs are not adjusted, rather the existing ratings are used to find new programming rated by users with similar ratings for commonly watched programs (column 9, lines 14-26). Thus when the recommendation is created for a program, which has not been watched by the user, the existing ratings can not decrease as they are not adjusted at all." (Examiner's Answer, page 10, lines 8-15.)

Based on the above, the applicants respectfully maintain that the rejection of claims 1-4 under 35 U.S.C. 102(b) over Payton is unfounded and unsupported.

Claim 5, upon which claims 6 and 8 depend, includes selecting test-data for revising a first user profile based on data in a second user profile, requesting feedback on the test-data from the first user and modifying the first user profile responsively to the feedback, and particularly, selecting test-data for material that the first user profile has insufficient data for determining whether the material would be favored or disfavored by the first user.

As discussed above, Payton fails to teach revising a first user profile based on data in a second user profile.

The Examiner again acknowledges that Payton does not teach modifying a user's profile of existing program rankings. The Examiner then asserts that the user's unrated items receive ratings based on the ratings of other users, and cites Payton column 9, lines 14-61 for this teaching. The applicants respectfully disagree with this assertion for a number of reasons.

Payton teaches providing recommendations based on the user's profile and the profiles of other similar users. If the user has not provided a rating for a program, the user's input is not used for determining the similar users. At the cited section of Payton, Payton specifically teaches:

"A number of specific algorithms can be used to compute the similarity measures and construct the similarity groups. A mean squared differences algorithm measures the degree of dissimilarity between two subscriber profiles by computing the normalized mean-square-error (MSE) between their two rating vectors. Only items rated by both subscribers are used to compute the measure....

"Another approach, called the Artist-Artist algorithm, uses the correlation between artists, movies, or applications to predict how a subscriber will like a certain item based upon those items the subscriber has already rated." (Payton, column 9, lines 14-41).

Even assuming in argument that the ratings of others are used for a recommendation when a user has not provided a rating, Payton does not teach revising the user's rating based on these other ratings. As noted above, the Examiner's Answer acknowledges that: "when the recommendation is created for a

program, which has not been watched by the user, the existing ratings can not decrease as they are not adjusted at all." (Examiner's Answer, page 10, lines 13-15.)

Further, Payton fails to teach selecting test-data selecting for revising a first user profile based on data in a second user profile and based on the sufficiency of the first user profile for determining whether the user may favor or disfavor the material, as also claimed in claim 5.

The Examiner considers "unranked programs to be test data... the rankings of other similar users are used to predict whether or not a user would like the programming" (Examiner's Answer, page 11, lines 15-19).

As noted above, Payton specifically teaches determining similar groups based only on programs that have been ranked by the user. Even assuming in argument that the rankings of other users are used when the user has not ranked a program, the Examiner has not identified where Payton teaches the use of unranked programs as test data for obtaining the user's feedback, as asserted in the Examiner's answer. The recommendations are based on the rankings, but Payton does not teach that a user's unranked programs will receive a higher ranking than the user's ranked programs, and thus does not teach test data based on the sufficiency of the first user profile for determining whether the user may favor or disfavor the material.

Based on the above, the applicants respectfully maintain that the rejection of claims 5, 6, and 8 under 35 U.S.C. 102(b) over Payton is unfounded and unsupported.

Claim 9, upon which claim 11 depends, includes a learning engine that generates a first user profile that includes a narrow description defining target data selections and a broad description defining non-target data selections. In an example embodiment, the target data selections include selections that are favorably ranked, and the non-target data selections include everything except dis-favored selections. The number of potential programs that would be included within a description of "every available program except those that the user specifically identified as dis-

avored" is virtually limitless, hence the term "broad description". Conversely, the number of programs that a user has ranked is limited, hence the term "narrow description".

Payton fails to teach a profile that includes a narrow description and a broad description.

The Examiner asserts that the collection of programs having lower ratings constitutes a broad category defining non-target data selections, and the collection of programs having higher ratings constitutes a narrow category defining target data selections (Examiner's Answer, page 13, lines 2-5). The applicants respectfully note that the number of items ranked high by a user may be greater than, less than, or equal to the number of items ranked low by the user, and thus neither set of rankings can be said to correspond to a broad description or a narrow description. The Examiner fails to identify where Payton teaches that a narrow description defines programs with a higher rating and a broad description defines programs with a lower rating, as asserted in the Examiner's Answer.

Based on the above, the applicants respectfully maintain that the rejection of claims 5, 6, and 8 under 35 U.S.C. 102(b) over Payton is unfounded and unsupported.

### **CONCLUSIONS**

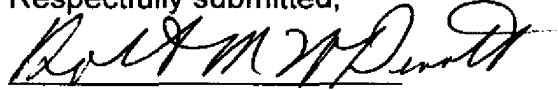
Because Payton does not teach modifying a first user based on a second user profile, fails to teach increasing the frequency of recommendation of a data-class without decreasing the frequency of another data-class, and fails to teach expanding the scope of a first user profile according to preferences in the second user profile, as specifically claimed in claim 1, the applicants respectfully request that the Examiner's rejection of claims 1-4 under 35 U.S.C. 102(b) be reversed by the Board, and the claims be allowed to pass to issue.

Because Payton does not teach selecting test-data for revising a first user's profile based on data from a second user's profile, and fails to teach primarily selecting the test-data for which the first user's profile is insufficient to determine

whether the test-data would be favored or disfavored, as specifically claimed in claim 5, the applicants respectfully request that the Examiner's rejection of claims 5-6 and 8 under 35 U.S.C. 102(b) be reversed by the Board, and the claims be allowed to pass to issue.

Because Payton does not teach generating a profile that includes a narrow description defining target data selections and a broad description defining non-target data selections, as specifically claimed in claim 9, the applicants respectfully request that the Examiner's rejection of claims 9 and 11 under 35 U.S.C. 102(b) be reversed by the Board, and the claims be allowed to pass to issue.

Respectfully submitted,



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